



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT



ENTERED



Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

DAVE MARTIN
Cabinet Secretary

BUTCH TONGATE
Acting Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 11, 2011

Colonel Stephen A. Kimball, Commander
27th Special Operations Mission Support Group
110 E. Sextant Avenue, Suite 1091
Cannon Air Force Base, New Mexico 88103

**RE: NOTICE OF DISAPPROVAL
PLAYA LAKE (SWMU 103)
PHASE III RCRA FACILITY INVESTIGATION REPORT
CANNON AIR FORCE BASE, NEW MEXICO
EPA ID # NM7572124454
HWB-CAFB-11-001**

Dear Col. Kimball:

The New Mexico Environment Department (NMED) received Cannon Air Force Base's (Permittee's), *Playa Lake (SWMU 103) Phase III RCRA Facility Investigation Report*, (Report) dated May 2011. NMED has reviewed the Report and hereby issues this Notice of Disapproval (NOD). The Permittee must address the following comments.

- 1. Executive Summary, page ES-1 and Section 7.2 (Phase III RFI Results), page 7-2:**

Permittees Statement: Executive Summary: “[s]urface water analytical results were evaluated using current New Mexico Administrative Code (NMAC) Surface Water Screening Levels (SWSLs) (NMAC 2009) and surface water [ecological screening values] ESVs (NMED 2008).” **Section 7.2:** “[t]he maximum surface water concentrations were compared to NMAC SWSLs, and ESVs. However, since NMAC SWSLs were not available for

surface water, maximum concentrations were compared to [United States Environmental Protection Agency] USEPA [regional screening levels] RSLs (USEPA 2010).”

NMED Comment: It is not clear from the above statements if the NMAC SWSLs were applied or why these were not available. In addition, it is not clear where the surface water ESVs were obtained. Revise the Report to clarify if surface water quality standards were applied, and if so, for which constituents, and if not explain why they were not available. Clarify the source of the surface water ESVs.

The Report references COPCs and COPECs in various sections of the Report (Section 4.2, 4.2.3, 4.5). The specific COPCs and COPECs are not defined. Revise the Report to clearly define the COPCs and COPECs in the appropriate portions of Section 4.0 or 7.0 and indicate how these were determined.

2. Section 2.5, (*Hydrogeology*), pages 2-4 and 2-5:

This Section indicates that the presence of water in playas may allow deep percolation to the aquifer. As such, the soil-to-groundwater pathway is a potentially complete pathway and must be evaluated in the risk assessment. Revise the Report to include an evaluation of site data relative to the applicable soil-to-groundwater screening levels (dilution attenuation factors).

3. Section 4.5.1 (*Derivation of NMED [soil screening levels] SSLs*), pages 4-5 and 4-6:

The text indicates that if more than one noncarcinogen detection was observed in the Phase III RFI data, then the noncarcinogenic NMED SSL was divided by 10. It is not clear why this approach was applied in lieu of the methodology outlined in the NMED SSL Guidance. Further, it is not clear that the SSL data contained in the data summary tables employed this approach. For example, the SSLs for metals, which are based on noncarcinogenic effects, were not divided by a value of 10. Clarify how and where this revision of SSLs was applied.

4. Section 5 (*Field Sampling*), page 5-1:

Permittee’s Statement: “[i]n accordance with the applicable standard operating procedures (SOPs), collocated surface water and sediment samples were collected.”

NMED Comment: A written description of the actual work performed must be included in the Report (i.e., written description in the text or included in

table format) rather than a reference to SOPs that may or may not have been followed in the field. Revise the Report to describe actual field activities conducted at the site.

5. Section 7.1.2 (Phase II RFI), page 7-1:

Permittee's Statement: “[a] maximum [total recoverable petroleum hydrocarbons] TRPH concentration of 734 [milligrams per kilogram] mg/kg was detected and compared to the New Mexico Action Level of 100 mg/kg (USEPA had not established a toxicity factor for the combined chemicals, so an appropriate RBC could not be calculated).”

NMED Comment: Revise the Report to explain what constituent(s) the “New Mexico Action Level of 100 mg/kg” is referring to and identify the source of this action level. Note that the New Mexico TPH screening guidelines (for potable groundwater) are 200 mg/kg for unknown oil.

6. Section 7.2 (Phase III RFI Results), third paragraph, penultimate sentence, page 7-3:

Permittee's Statement: “[t]he difference between the total and dissolved lead results is uncertain.”

NMED Comment: The meaning of the statement is not clear; total and dissolved metals are typically “different” from each other due to the filtering step needed for dissolved metals samples. Remove the statement or clarify its meaning.

7. Section 7.4 (Human Health Risk Evaluation), page 7-3:

The sampling results were reportedly screened against the NMED residential SSLs, NMAC SWSLs, USEPA RSLs and TRPH screening guidelines. The text states “[s]ince all results and [toxic equivalents] TEQs were below the screening levels, a risk assessment was not warranted. Therefore, no unacceptable risks to human health exist at the Playa Lake (SWMU 103).” The results of this screening were not provided in the Report. Provide this analysis.

Further, it does not appear that any consideration was given to cumulative effects. Per NMED Guidance a total site risk/hazard must be determined when there are multiple contaminants. Not considering the effect of additivity when screening multiple chemicals results is misuse of the SSLs. Risk/hazard

must be calculated for each receptor, pathway, and cumulative exposure scenario.

8. Table 7-2 (*Comparison of Maximum Surface Water Concentrations to NMAC SWSLs Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 of 1:

A toxicity equivalency factor (TEF) was not applied to determine an equivalent screening criterion for the dioxin congener (1,2,3,4,6,7,8,9-OCDD). Following standard risk assessment guidance, TEFs should be used for dioxin/furan congeners to calculate toxic equivalency concentrations (TEQs) and subsequent risk. This process is based on the toxicity of each congener relative to the toxicity of TCDD. The NMED SSL table (Table A-1) provides a tap water screening value for 2,3,7,8-TCDD to which the TEF of 0.0003 (WHO 2005) should have been applied to derive an appropriate screening level for OCDD. Revise the Report accordingly.

9. Table 7-2 (*Comparison of Maximum Surface Water Concentrations to NMAC SWSLs Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 of 1:

The RSLs for tap water as listed in the table are based on a carcinogenic risk level of 1E-06. Note that NMED applies a target risk level of 1E-05. Ensure that when additive risks are calculated (as required by these comments), the RSL tap water values are adjusted accordingly.

10. Table 7-2 (*Comparison of Maximum Surface Water Concentrations to NMAC SWSLs Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 of 1:

Ecological screening levels are not provided for either the polychlorinated biphenyl (PCB) congeners or dioxin furans for water. However, screening levels are available for these. As an example, USEPA Region 5 (<http://www.epa.gov/reg5rcra/ca/ESL.pdf>) has ecological screening levels that could be used along with appropriate TEFs. Revise the Report accordingly.

11. Table 7-2 (*Comparison of Maximum Surface Water Concentrations to NMAC SWSLs Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 of 1:

Both the RSL tables and the NMED SSL tables contain a tap water screening level for selenium. These must not be excluded from the table. Revise the Report accordingly.

12. Table 7-2 (*Comparison of Maximum Surface Water Concentrations to NMAC SWSLs Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 of 1:

No tap water ingestion screening levels were available for total and dissolved lead. As a check, the concentrations were compared to the Federal Maximum Contaminant Level (MCL) for lead (15 micrograms per liter ($\mu\text{g/L}$)). The maximum detected concentrations for SWMU 103 were less than the MCL. No response to this comment is required.

13. Table 7-4 (*Comparison of Maximum Sediment Concentrations to NMED SSLs and Background Concentrations, Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 and 2 of 2:

No ecological screening levels are provided for either the PCB congeners or dioxin furans for sediment. However, screening levels are available for these. As an example, EPA Region 5 (<http://www.epa.gov/reg5rcra/ca/ESL.pdf>) has ecological screening levels for sediment that could be used along with appropriate TEFs. Revise the Report accordingly.

14. Table 7-4 (*Comparison of Maximum Sediment Concentrations to NMED SSLs and Background Concentrations, Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 and 2 of 2:

It is not clear why TEFs were not applied to determine an equivalent screening criterion for the dioxin/furan congeners. Revise the Report accordingly.

15. Appendix A.1 (*Daily Quality Control Report*):

NMED Comment: "Water sample collection field sheets" are included that contain field measurement data. The Report does not discuss the methods for collection of field measurements nor is the equipment used to collect the field data discussed. Revise the Report to include discussion of the methods and instruments used to collect field measurements.

16. Appendix A.2 (*Sample Collection Field Sheets, Soil Sample Collection Field Sheet*):

NMED Comment: Methane is odorless; no revision is necessary.

17. Table 7-2, Comparison of Maximum Surface Water Concentrations to NMAC SWLS:

A toxicity equivalency factor (TEF) was not applied to determine an equivalent screening criterion for the dioxin congener (1,2,3,4,6,7,8,9-OCDD). Following standard risk assessment guidance, TEFs should be used for dioxin/furan congeners to calculate toxic equivalency concentrations (TEQs) and subsequent risk. This process is based on the toxicity of each congener relative to the toxicity of TCDD. The NMED SSL table does provide a tap water screening value for 2,3,7,8-TCDD to which the TEF of 0.0003 (WHO 2005) should have been applied to derive an appropriate screening level for OCDD. Revise the Report accordingly.

18. Appendix D (*Ecological Risk Assessment*):

Additive hazards were not estimated for ecological impacts. Evaluation of hazard quotients was done on an individual basis which does not account for additivity. Conservatively, as an initial screen, those chemicals that have an associated Hazard Quotient (HQ) of 0.3 are retained for additional analysis. Revise the risk assessment to include estimates of HQs as part of the screening analysis. In addition, if any chemicals have an HQ of 0.3 or greater, additional analyses are warranted and additive risk must be assessed. Make appropriate revisions to the Report.

19. Appendix D, Table 1 (*Data Summary And Identification of Chemicals of Potential Ecological Concern in Surface Water Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 and 2 of 2:

Ecological screening levels are indicated as not being available for the PCB and dioxin/furan congeners. However, screening levels are available for these. As an example, USEPA Region 5 has ecological screening levels that could be used along with appropriate TEFs. See <http://www.epa.gov/reg5rcra/ca/ESL.pdf>. Revise the Report accordingly.

20. Appendix D, Table 10 (*Ecological Screening Quotients for Aquatic Receptors Playa Lake (SWMU 103) Phase III RFI Cannon Air Force Base, New Mexico*), page 1 of 1:

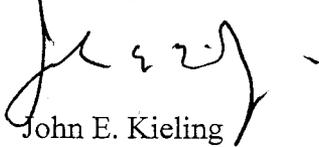
The ecological HQs are presented on this table, but there is no determination of HIs. Revise the table to include appropriate HIs and adjust the HIs based on effects (e.g., reproductive) as appropriate.

Colonel Stephen A. Kimball
August 11, 2011
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The Permittee must address all comments as directed in this NOD in a revised Report. The revised Report must be accompanied by a response letter that describes where all revisions have been made, cross referencing NMED's numbered comments. The Permittee must provide one electronic and two paper copies of the revised Report. In addition, an electronic version of the revised Report must be submitted identifying where all changes have been made to the Report in redline-strikeout format. The revised Report and response must be submitted to NMED no later than October 31, 2011.

Please contact Daniel Comeau at (505) 476-6043, if you have any questions.

Sincerely,



John E. Kieling
Acting Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
D. Comeau, NMED HWB
L. King, EPA 6PD-N
R. Lancaster, CAFB
A. Lafuente, CAFB

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